



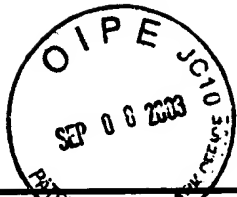
2879

<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)		Application No.	09/900,078
		Filing Date	July 6, 2001
		First Named Inventor	Sashiro Uemura
		Group Art Unit	2879
		Examiner Name	Berck, Kenneth A.
Total Number of Pages in This Submission	11	Attorney Docket Number	96790P370

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form  <input type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment / Response  <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input checked="" type="checkbox"/> Information Disclosure Statement <input checked="" type="checkbox"/> PTO/SB/08  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Basic Filing Fee <input type="checkbox"/> Declaration/POA  <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition  <input type="checkbox"/> Petition to Convert a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Chinese office action; Prior Art References (3); return postcard</div>
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Eric S. Hyman, Reg. No. 30,139 BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Signature	
Date	9/2/03

CERTIFICATE OF MAILING/TRANSMISSION			
I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.			
Typed or printed name	Melissa Stead	Date	9-3-03
Signature			



# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT

(\$)

## Complete if Known

Application Number	09/900,078
Filing Date	July 6, 2001
First Named Inventor	Sashiro Uemura
Examiner Name	Berck, Kenneth A.
Group/Art Unit	2879
Attorney Docket No.	96790P370

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None  
☒ Deposit Account

Deposit Account Number

02-2666

Deposit Account Name

Blakely, Sokoloff, Taylor & Zafman LLP

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Credit any overpayments  
☒ Charge any additional fee(s) required under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20.  
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$)

### 2. EXTRA CLAIM FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	84	2201	42	Independent claims in excess of 3	
1203	280	2203	140	Multiple Dependent claim, if not paid	
1204	84	2204	42	**Reissue independent claims over original patent	
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$)

\*\*or number previously paid, if greater, For Reissues, see below

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
2053	130	2053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920 *	1804	920 *	Requesting publication of SIR prior to Examiner action	
1805	1,840 *	1805	1,840 *	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1404	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	2451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	2460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	1809	375	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
Other fee (specify)					
SUBTOTAL (3)					(\$)

\* Reduced by Basic Filing Fee Paid

## SUBMITTED BY

## Complete (if applicable)

Name (Print/Type)	Eric S. Hyman	Registration No. (Attorney/Agent)	30,139	Telephone	(310) 207-3800
Signature		Date	9/2/03		

# State Intellectual Property Office of People's Republic of China

Add:16/F,ZhongkeBuilding,No.80,Haidian Road, Haidian District, Beijing ,P.R.China Postal Code:100080

Applicant(s)	ISE Electronics Corporation	Issuing Date: June27,2003
Patent Agent(s)	Ruifeng CHEN	
Application No.	01120205.X	
Title of Invention	FLAT DISPAY AND METHOD OFMOUNTING FILED EMISSION YTYPE ELECTRON-EMITTING SOURCE	

## THE FIRST OFFICE ACTION

1. ☒ The applicant has filed a request for substantive examination on \_\_\_\_\_ (day/month/year). The examiner has proceeded the substantive examination on the above mentioned patent application for invention in accordance with the provisions of Article 35(1) of the Chinese Patent Law.
- ☐ The Patent Office has decided to proceed a substantive examination on the above mentioned patent application for invention in accordance with the provisions of Article 35(2) of the Chinese Patent Law.
2. ☒ The applicant claimed:  
the filing date 2000.7.7 in the Japan Patent Office as the priority date,  
the filing date \_\_\_\_\_ in the \_\_\_\_\_ Patent Office as the priority date,  
the filing date \_\_\_\_\_ in the \_\_\_\_\_ Patent Office as the priority date,  
the filing date \_\_\_\_\_ in the \_\_\_\_\_ Patent Office as the priority date,  
the filing date \_\_\_\_\_ in the \_\_\_\_\_ Patent Office as the priority date.
- ☒ The applicant has provided a copy of the priority documents certified by the Patent Office where the prior application(s) was/were filed.
- ☐ The applicant has not provided a copy of the priority documents certified by the Patent Office where the prior application(s) was/were filed and the priority claim(s) is/are deemed not to have been made in accordance with the provisions of Article 30 of the Chinese Patent Law.
3. ☐ The applicant submitted amendment (s) to the application on \_\_\_\_\_ and on \_\_\_\_\_, wherein the amendment (s) submitted on \_\_\_\_\_ and on \_\_\_\_\_ are unacceptable, because said amendment(s) is/are not in conformity with  
☐ the provisions of Article 33 of the Chinese Patent Law:  
☐ the provisions of Rule 51 of the Implementing Regulations of the Chinese Patent Law.  
The detailed reasons for the amendments being unacceptable is described in the text of this Office Action.
4. ☒ The examination is proceeded based on the application documents originally filed.  
☐ Description:  
Pages \_\_\_\_\_ of original application documents filed don the application date,  
Pages \_\_\_\_\_ filed on; Pages \_\_\_\_\_ filed on;  
Pages \_\_\_\_\_ filed on; Pages \_\_\_\_\_ filed on;

☐ Claims:

Pages \_\_\_\_\_ of original application documents filed don the application date,  
Pages \_\_\_\_\_ filed on; Pages \_\_\_\_\_ filed on;  
Pages \_\_\_\_\_ filed on; Pages \_\_\_\_\_ filed on;

☐ Drawings:

Pages \_\_\_\_\_ of original application documents filed don the application date,  
Pages \_\_\_\_\_ filed on; Pages \_\_\_\_\_ filed on;  
Pages \_\_\_\_\_ filed on; Pages \_\_\_\_\_ filed on;

☐ Abstract: ☐ Filed on the application date; ☐ filed on \_\_\_\_\_

☐ Drawing to the Abstract: ☐ Filed on the application date; ☐ filed on \_\_\_\_\_

5. ☐ This Notification is issued without a search having been conducted.

☒ This Notification is issued with a search having been conducted.

☒ The following reference documents have been cited in this office action(their serial numbers will be referred to in the ensuing examination procedure):

Serial No.	Reference document( Number or Title)	Publication Date (or Filing date of interference patent applications)		
		day	month	year
1	US5872422A	16	2	1999
2	EP0951047A2	20	10	1999
3	US5498925A	12	3	1996
4		day	month	year

6. The conclusive opinion of the examiner is as follows:

☒ Description:

- ☐ The subject matter of the application falls into the scope, on which no patent right shall be granted, defined by Article 5 of the Chinese Patent Law.
- ☐ The description is not in conformity with the provisions of Article 26(3) of the Chinese Patent Law.
- ☒ The description is not in conformity with the provisions of Rule 18 of the Implementing Regulations of the Chinese Patent Law.

☒ Claims:

- ☐ Claim \_\_\_\_\_ falls into the scope, on which no granted patent right shall be granted, provided by Article 25 of the Chinese Patent Law.
- ☐ Claim \_\_\_\_\_ is not in conformity with the definition of invention prescribed by Rule 2(1) of the Implementing Regulations of the Chinese Patent Law.
- ☐ Claim \_\_\_\_\_ does not possess novelty provided by Article 22(2) of the Chinese Patent Law.
- ☒ Claim 1-8 does not possess inventiveness provided by Article 22(3) of the Chinese Patent Law.

- ☐ Claim \_\_\_\_\_ does not possess practical applicability provided by Article 22(4) of the Chinese Patent Law.
- ☒ Claim 9 is not in conformity with the provisions of Article 26(4) of the Chinese Patent Law.
- ☐ Claim \_\_\_\_\_ is not in conformity with the provisions of Article 31(1) of the Chinese Patent Law.
- ☒ Claim 9,10 is not in conformity with the provisions of Rule 20 of the Implementing Regulations of the Chinese Patent Law.
- ☒ Claim 9 is not in conformity with the provisions of Rule 21 of the Implementing Regulations of the Chinese Patent Law.
- ☐ Claim \_\_\_\_\_ is not in conformity with the provisions of Rule 22 to 23 of the Implementing Regulations of the Chinese Patent Law.
- ☐ Claim \_\_\_\_\_ is not in conformity with the provisions of Article 9 of the Chinese Patent Law.
- ☐ Claim \_\_\_\_\_ is not in conformity with the provisions of Rule 12(1) of the Implementing Regulations of the Chinese Patent Law.

The detailed analysis for above conclusive opinion is described in the text of this office action.

7. On the basis of the above conclusive opinion, the examiner holds that:

- ☐ The applicant should make amendment in accordance with the requirements described in the text of this office action.
- ☒ The applicant should expound reasons for that the above mentioned patent application can be granted patent right, and make amendments to the specification which is not in conformity with the provisions as described in the text of this office action; otherwise the patent right shall not be granted.
- ☐ The patent application does not possess any substantive contents for which patent right may be granted, if the applicant fails to expound reasons or the reasons expounded are not sufficient, this application will be rejected.
- ☐

8. The applicant shall pay attention to the following matters:

- (1) In accordance with the provisions of Article 37 of the Chinese Patent Law, the applicant shall submit a response within four months from the date of receiving this office action. If the applicant fails to meet the time limit without any justified reason, the application shall be deemed to have been withdrawn.
- (2) The amendment made by the applicant shall be in conformity with the provisions of Article 33 of the Chinese Patent Law. The amendment shall be submitted in duplicate copies and in a format which is in accordance with the relevant provisions of the Examination Manual.
- (3) The applicant's response and/or amended documents shall be mailed or submitted to the Receiving Department of the Chinese Patent Office. The documents which are not mailed or submitted to the Receiving Department do not possess legal effect.
- (4) The applicant and/or his(its) agent shall not come to the Chinese Patent Office to interview with the examiner without an appointment.

9. The text of this office action consists of a total of 4 sheets, and is accompanied by the following annexes:

- ☒ A copy of the cited reference documents consisting of 3 sets and 80 sheets.
- ☒ The 9-D Examination Department

The Seal of the Examiner: Zhihua ZENG

## The Detailed Office Action

The present invention relates to a flat display and a method of mounting field emission type electron-emitting source. The following objections are raised after the examination.

### 1. Regarding to Claim 1

(1) Claim 1 claims a flat display. The reference 1(US 5,872,422) discloses a flat display comprising a substrate (301); a field emission type electron-emitting source (308) mounted on said substrate (301); a substrate (302) (corresponding to the front glass member in Claim 1 of the application) opposing said substrate (301) through a vacuum space and having light transmittance at least partially; a gate metal (301) with an electron passing hole and set away from said electron-emitting source to oppose said substrate (301) (corresponding to the electron extracting electrode in Claim 1); and a phosphor material film(304) formed on a surface of the substrate (302) which opposes said substrate (301). (cf. lines 33-53, column 18 and Fig. 10 in reference 1)

(2) Thus, there are the differences between both of the flat displays in Claim 1 and the reference 1, which the electron-emitting source used in the flat displays of Claim 1 is a plate-like metal member with a large number of through holes and serving as a growth nucleus for nanotube fibers, and a coating film formed of nanotubes that cover a surface of said metal member and inner walls of the through holes.

(3) On the other hand, a field emission type electron-emitting source is disclosed in the reference 2 (EP 0,951,047 A2), in which the electron-emitting source having the above features of the structure written. That is, said

electron-emitting source is a plate-like metal member (13) with a large number of through holes (14) and serving as a growth nucleus for nanotube fibers, and a coating film (111, 114) formed of nanotubes that cover a surface of said metal member and inner walls of the through holes. (cf. line 54 of column 3 to line 37 of column 5 and Figs. 1, 2, 11-16 in reference 2)

(4) It is obvious that the reference 2 provides a technical revelation for solving the concerning technical problem to be solved by the present invention through applying the electron-emitting source having the above features of the structure to the flat display of Claim 1. That is, it is not difficult that the technical solution claimed by Claim 1 is obtained by the combining with the reference 2 based on the reference 1, for a person skilled in the relevant field of the technology. Therefore, Claim 1 has not prominent substantive feature and does not represent a notable progress, so it is not in conformity with the provision of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

***The following is a quotation of the 3<sup>rd</sup> paragraph of Article 22 of the Patent Law of the People's Republic of China:***

*Inventiveness means that, as compared with the technology existing before the date of filing, the invention has prominent substantive feature and represents a notable progress and that the utility model has substantive features and represents progress.*

## 2. Regarding to Claim 2

(1) The additive technical features contained in the characterizing portion of Claim 2 are as follows. Said electron-emitting source comprises a plurality of band-like electron-emitting sources arranged parallel to each other. Said electron extracting electrode comprises a plurality of band-like extracting electrodes arranged in a direction perpendicular to said hand-like electron-emitting sources. Said phosphor film comprises a plurality of band-like phosphor films arranged to oppose said band-like extracting electrodes.

(2) However, the reference 1 discloses the following contents. An electron-emitting source comprises a plurality of band-like electron-emitting sources (308) arranged parallel to each other. The gate electrode comprises a plurality

of gate electrodes (306) arranged in a direction perpendicular to said hand-like electron-emitting sources. (cf. lines 33-53, column 18 and Fig. 10 in reference 1)

(3) Thus, any creationary work is unnecessary to obtain the electron-emitting source and gate electrode (corresponding to the electron-emitting source and the electron extracting electrode in Claim 2) with the same that of above arrangements for a person skilled in the relevant field of the technology, based on the electron-emitting source (111) (note: sic) disclosed by the reference 2 and the arrangement manner of the band-like electron-emitting source (308) disclosed by the reference 1.

(4) The reference 3 discloses a flat display and the phosphor film comprising a plurality of band-like phosphor films (511) arranged to oppose said band-like extracting electrodes (72). ( cf. Fig. 7 in the reference 3)

(5) Therefore, under the Claim 1 referred to it lacks the inventiveness, Claim 2 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

3. The additive technical features contained in the characterizing portion of Claim 3 are as follows. Said display further comprises a plurality of support ribs vertically standing on said substrate at a predetermined interval. Said band-like electron-emitting sources are arranged among said support ribs, and said band-like electron extracting electrodes are supported on said support ribs. Similarly, all of these features have been disclosed by the reference 1 (cf. lines 33-53, column 18 and Fig. 10 in reference 1). So, under the Claim 2 referred to it lacks the inventiveness, Claim 3 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

4. The additive technical feature contained in the characterizing portion of



Claim 4 is that said electron-emitting source is fixed to said substrate with an adhesive containing frit glass.

The electron-emitting source having the structure of the nanotubes disclosed by the reference 2 is implemented to fix through that a film of aluminum is deposited to the substrate in advance, while two elements containing a metal element with the electron-emitting source and a substrate are fixed. In fact, it is a general means to carry out to fix, employing the adhesive. Specially, it is a general knowledge to carry out to fixed to a glass substrate by means of the glass adhesive having lower melting point for a person skilled in the relevant field of the technology. Thus, it is a general knowledge to fix a metal element with the electron-emitting source to a glass substrate with the glass adhesive containing frit glass for a person skilled in the relevant field of the technology.

Therefore, under the Claim 1 referred to it lacks the inventiveness, Claim 4 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

5. The additive technical features contained in the characterizing portion of Claim 5 are that said metal member of said electron-emitting source is made of one of iron and an iron-containing alloy, and the nanotubes constituting said coating film are made of carbon and adapted to cover said metal member in a curled state.

The reference 2 discloses that the metal member is made by aluminum, and the nanotubes constituting said coating film are made of carbon (cf. lines 30-50, column 24 and Fig. 18 in reference 2). In which, it is just an equivalent displacement for aluminum to employing one of iron and an iron-containing alloy.

Furthermore, the reference 2 also discloses that the surface of the metal member and the inner wall surface of the passing hole covered with the

nanotubes, and they form the smooth curved surface (cf. Figs. 11-16 in reference 2).

In fact, a person skilled in the relevant field of the technology can similarly obtain the nanotubes which is adapted to cover said metal member in a curved state through a technology for controlling the growth of said nanotubes made of carbon in a hole in degree of the nanometer. Therefore, under the Claim 1 referred to it lacks the inventiveness, Claim 5 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

6. The additive technical features contained in the characterizing portion of Claim 6 are that the nanotube fibers constituting said coating film are fibers each with a thickness of not less than 10 nm and less than 1  $\mu\text{m}$  and a length of not less than 1  $\mu\text{m}$  and less than 100  $\mu\text{m}$ .

The reference 2 discloses that the nanotube has a diameter in range of 2-50nm. On the other hand, the length of the nanotube would be controlled in according to desirous. Therefore, under the Claim 5 referred to it lacks the inventiveness, Claim 6 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

#### 7. Regarding to Claim 7

(1) The additive technical features contained in the characterizing portion of Claim 7 are that said metal member has a thickness of 0.05 mm to 0.20 mm, and said coating film covers the surface of said metal member and the inner walls of the through holes to a thickness of 10 $\mu\text{m}$  to 30 $\mu\text{m}$  to form a smooth curved surface.

(2) The reference 2 discloses that the metal member of aluminum has a thickness of 300nm or 500nm (cf. line 19, column 19 and lines 2-3, column 35 in reference 2). On the other hand, the size and depth of the hole in degree of

the nanometer may be controlled for a person skilled in the relevant field of the technology in according to the size and length of the nanotube to be formed. Thereby the thickness for the metal member may be changed.

(3) Furthermore, the reference 2 also discloses that the surface of the metal member and the inner wall surface of the passing hole covered with the nanotubes, and they form the smooth curved surface (cf. Figs. 11-16 in reference 2). A person skilled in the relevant field of the technology can similarly obtain said the surface of the metal member and the inner wall surface of the passing hole which have a thickness of 10 $\mu$ m to 30 $\mu$ m, so as the nanotubes having a carved surface may be formed through a technology for controlling the growth of said nanotubes made of carbon in a hole in degree of the nanometer.

Therefore, under the Claim 5 referred to it lacks the inventiveness, Claim 7 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

8. The additive technical features contained in the characterizing portion of Claim 8 are that said metal member has the through holes in a matrix shape to form a grid. The examiner believes in that above technical features are disclosed by the reference 2, as shown in Fig. 1 therein. Therefore, under the Claim 1 referred to it lacks the inventiveness, Claim 8 is not in conformity with the provision concerning the inventiveness of the 3<sup>rd</sup> paragraph of Article 22 of CPL.

#### 9. Regarding to Claim 9

(1) Claim 8 lacks the essential technical features necessary for the solution

of its technical problem, which include “the metal attaching metal fixtures” and the relation concerning the station between said metal attaching metal fixtures and the glass substrate, the metal substrate. In fact, the entire process for an assembly will be carried out in a metal attaching metal fixtures. Otherwise, the assembly for an electron-emitting source will not be implemented. On the other hand, the steps of “the glass substrate is accommodated in the groove of the metal attaching jig” and “the holding member is used in fixing the metal substrate by means of the projections of the metal attaching jig” are the necessary steps for the positioning and fixing in a process for an assembling to said electron-emitting source. Since the above technical features are not written in Claim 9, it is not in conformity with the provision of the 2<sup>nd</sup> paragraph of Rule 21 of the Implementing Regulations of CPL.

***The following is a quotation of the 2<sup>nd</sup> paragraph of Rule 21 of the Implementing Regulations of the Patent Law of the People's Republic of China:***

*An independent claim shall outline the technical solution of an invention or utility model and state the essential technical features necessary for the solution of its technical problem.*

(2) Claim 9 is not supported by the description, so it is not in conformity with the provision of the 4<sup>th</sup> paragraph of Article 26 of CPL.

The content “...with a tensile force being applied to the metal substrate formed with the coating film” is contained in Claim 9. However, according to the description, the metal substrate is adhered with a tensile force being applied to it by means of the difference of the coefficient of thermal expansion between said metal attaching jig and glass substrate. In fact any of the other methods for applying a tensile force to said metal substrate is not written in the description. Thus, the above generalized limitation manner used in the present Claim 9 can not be supported by the actual disclosure of the description.

***The following is a quotation of the 4<sup>th</sup> paragraph of Article 26 of the Patent Law of the People's Republic of China:***

*The claims shall be supported by the description and shall state the extent of the patent protection asked for.*

(3) Claim 9 is not clear, so it is not in conformity with the provision of the

1<sup>st</sup> paragraph of Rule 20 of the Implementing Regulations of CPL.

The examiner believes in that a term “the band-like metal members” written in line 16 should be replaced with other term “the band-like *plate-like* metal members” . Furthermore, regarding to the phrase “...unloading a glass substrate on which a field emission type electron-emitting source has been mounted” , it is unclear where from said “field emission type electron-emitting source” and “glass substrate” will be unloaded.

***The following is a quotation of the 1<sup>st</sup> paragraph of Rule 20 of the Implementing Regulations of the Patent Law of the People's Republic of China:***

*The claims shall define clearly and concisely the matter for which protection is sought in terms of the technical features of the invention or utility model.*

10. Claim 10 is not clear, so it is not in conformity with the provision of the 1<sup>st</sup> paragraph of Rule 20 of the Implementing Regulations of CPL.

The technical feature “plate-like metal attaching metal fixtures” contained in line 4 on Claim 10 is not existed in Claim 9 referred to it. In addition, the term “plate-like metal attaching metal fixtures” is not concise therein. The term “the band-like metal member” should be replaced by other term “the band-like plate-like metal member” .

11. Thus, the examiner believes in that the applicant should make the corresponding amendment for Claims 9 and 10 as follows.

(1) Said the essential technical features necessary for the solution of its technical problem as described above in item 9-(1) should be incorporated in Claim 9.

(2) Thereafter, Claim 10 should have a corresponding amendment. More specifically, the contents repeated to the amended Claim 9 should be deleted from the amended Claim 10, to avoid the unclear new Claim 10.




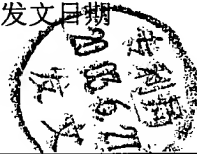
In view of the above reasons, the present application can not still be

granted as a patent based on the present application text. The applicant should make an amendment for the claims according to above examiner's opinions and submit new claims and description within the appointed time limit as this office action. Meantime, the summary portion of the description and the abstract should be corrected in according to the new amended independent claims. Thus, it is redounded to the examination for the application. Of course, the amendment should be in conformity with the provision of Article 33 of CPL.

***The following is a quotation of Article 33 of the Patent Law of the People's Republic of China:***

*An applicant may amend his or its application for a patent, but the amendment to the application for a patent for invention or utility model may not go beyond the scope of the disclosure contained in the initial description and claims, ...*

# 中华人民共和国国家知识产权局

邮政编码: 100080 北京海淀区海淀路 80 号 中科大厦 16 层 中科专利商标代理有限责任公司 陈瑞丰				 	
申请号	01120205.x	部门及通知书类型	9 -D	发文日期 	
申请人	伊势电子工业株式会社 诺利塔克股份有限公司				
发明名称	平面显示器及安装场致发射型电子发射源的方法				

## 第一次审查意见通知书

1. ☒ 依申请人提出的实审请求, 根据专利法第 35 条第 1 款的规定, 审查员对上述发明专利申请进行实质审查。  
☐ 根据专利法第 35 条第 2 款的规定, 国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☒ 申请人要求以在:
 

日本 专利局的申请日 2000 年 7 月 7 日为优先权日,  
 专利局的申请日 年 月 日为优先权日,  
 专利局的申请日 年 月 日为优先权日,  
 专利局的申请日 年 月 日为优先权日,  
 专利局的申请日 年 月 日为优先权日。

☒ 申请人已经提交了经原申请国受理机关证明的第一次提出的在先申请文件的副本。  
☐ 申请人尚未提交经原申请国受理机关证明的第一次提出的在先申请文件的副本, 根据专利法第 30 条的规定视为未提出优先权要求。
3. ☐ 申请人于 年 月 日和 年 月 日提交了修改文件。  
 经审查, 申请人于: 年 月 日提交的 不符合实施细则第 51 条的规定。  
 年 月 日提交的 不符合专利法第 33 条的规定。
4. 审查针对的申请文件:
 

☒ 原始申请文件。 ☐ 审查是针对下述申请文件的  
 申请日提交的原始申请文件的权利要求第 项、说明书第 页、附图第 页;  
 年 月 日提交的权利要求第 项、说明书第 页、附图第 页;  
 年 月 日提交的权利要求第 项、说明书第 页、附图第 页;  
 年 月 日提交的权利要求第 项、说明书第 页、附图第 页;  
 年 月 日提交的说明书摘要, 年 月 日提交的摘要附图。
5. ☐ 本通知书是在未进行检索的情况下作出的。  
☒ 本通知书是在进行了检索的情况下作出的。  
☒ 本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用):

回函请寄: 100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收  
 21301 2002.7 (注: 凡寄给审查员个人的信函不具有法律效力)

编号	文件号或名称	公开日期
1	US5872422A	1999 年 2 月 16 日
2	EP0951047A2	1999 年 10 月 20 日
3	US5498925A	1996 年 3 月 12 日
4		年月日

6. 审查的结论性意见:

☒ 关于说明书:

- ☐ 申请的内容属于专利法第 5 条规定的不予授予专利权的范围。
- ☐ 说明书不符合专利法第 26 条第 3 款的规定。
- ☐ 说明书不符合专利法第 33 条的规定。
- ☐ 说明书的撰写不符合实施细则第 18 条的规定。
- ☒ 说明书的撰写不符合实施细则第 19 条的规定。

☒ 关于权利要求书:

- ☐ 权利要求\_\_\_\_\_不具备专利法第 22 条第 2 款规定的新颖性。
- ☒ 权利要求 1-8 不具备专利法第 22 条第 3 款规定的创造性。
- ☐ 权利要求\_\_\_\_\_不具备专利法第 22 条第 4 款规定的实用性。
- ☐ 权利要求\_\_\_\_\_属于专利法第 25 条规定的不予授予专利权的范围。
- ☒ 权利要求 9 不符合专利法第 26 条第 4 款的规定。
- ☐ 权利要求\_\_\_\_\_不符合专利法第 31 条第 1 款的规定。
- ☐ 权利要求\_\_\_\_\_不符合专利法第 33 条的规定。
- ☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 2 条第 1 款关于发明的定义。
- ☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 13 条第 1 款的规定。
- ☒ 权利要求 9, 10 不符合专利法实施细则第 20 条的规定。
- ☒ 权利要求 9 不符合专利法实施细则第 21 条的规定。
- ☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 22 条的规定。
- ☐ 权利要求\_\_\_\_\_不符合专利法实施细则第 23 条的规定。

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见, 审查员认为:

- ☐ 申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。
- ☒ 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。
- ☐ 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被驳回。

8. 申请人应注意下述事项:

- 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的 3 个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。
- 申请人对其申请的修改应符合专利法第 33 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
- 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
- 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 4 页, 并附有下列附件:

☒ 引用的对比文件的复印件共 3 份 80 页。

☒ 审查 9 部 审查员\_\_\_\_\_ 审查部门业务专用章\_\_\_\_\_ (未加盖审查业务专用章的通知书不具备法律效力)



## 第一次审查意见通知书

本发明专利申请涉及一种平面显示器及安装场致发射型电子发射源的方法。经审查，具体审查意见如下：

### （一）权利要求部分

1、权利要求 1 请求保护一种平面显示器，对比文件 1（US5872422A）公开了一种平面显示器，并披露了以下技术特征（见对比文件 1 说明书第 18 栏第 33-53 行，附图 10）：基板 301，安装在基板 301 上的场致发射型电子发射源 308，通过真空空间与基板 301 面对并至少透射部分光的基板 302（相当于权利要求 1 中的前玻璃件），带有电子通孔并远离电子发射源设置与基板 301 相对的栅电极 306（相当于权利要求 1 中的电子引出电极），面对基板 301 的基板 302 表面上形成的荧光物质膜 304。

权利要求 1 与对比文件 1 的平面显示器的区别在于：权利要求 1 中采用的电子发射源为具有大量通孔的板状金属件，它用作纳米管纤维的生长核心，由纳米管形成的包敷膜，它覆盖金属件的表面和各通孔的内壁。

对比文件 2（EP0951047A2）公开了一种场致发射电子源，并披露了上述电子发射源（见对比文件 2 第 3 栏第 54 行至第 5 栏第 37 行，附图 1、2、11-16）：具有大量通孔 14 的板状金属件 13，它用作纳米管纤维的生长核心，由纳米管形成的包敷膜 111、141，它覆盖金属件的表面和各通孔的内壁。

由此可知，对比文件 2 给出了将上述电子发射源应用到权利要求 1 中以解决形成电子发射源的技术问题的启示，也就是说，在对比文件 1 的基础上结合对比文件 2 得到权利要求 1 的技术方案对本领域技术人员来说是显而易见的。因此，相对于对比文件 1 和 2，权利要求 1 不具有突出的实质性特点和显著的进步，不具备专利法第二十二条第三款所规定的创造性。

2、权利要求 2 的附加技术特征为电子源包括多个彼此平行排列的带状电子发射源，电子引出电极包含多个按与各条带状电子发射源正交方向排列的条带状电子引出电极，荧光物质膜包含多个与条带状电子引出电极相对的条带状荧光物质膜。

对比文件 1 公开了电子源包括多个彼此平行排列的带状电子发射源 308，栅电极包含多个按与各条带状电子发射源 308 正交方向排列的条带状栅电极 306（出处同上），本领域技术人员根据对比文件 2 所公开的电子发射源 111 及对比文件 1 所公开的电子发射源 308 的布置方式，在不需要创造性劳动下，完全可得到上述布置的电子源与栅电极（相当于权利要求 2 中的电子源和电子引出电极）。

对比文件 3 (US5498925A) 公开了一种平面显示器，并披露了荧光物质膜包含多个与条带状电子引出电极 72 相对的条带状荧光物质膜 511 (见对比文件 3 附图 7)。

因此，当其引用的权利要求 1 不具备创造性时，权利要求 2 也不具备专利法第二十二条第三款所规定的创造性。

3、权利要求 3 的附加技术特征为显示器还包括多个支撑加强肋，它们按一定的间隔竖直地立在基板上，各条带状电子发射源布置在支撑加强肋中间，各条带状电子引出电极被支撑在支撑加强肋上。上述技术特征已在对比文件 1 中披露 (出处同上)，因此，当其引用的权利要求 2 不具备创造性时，权利要求 3 也不具备专利法第二十二条第三款所规定的创造性。

4、权利要求 4 的附加技术特征为电子发射源以含有熔结玻璃的粘合剂被固定在基板上。对比文件 2 公开的纳米管电子发射源是通过先沉积 Al 膜到基体上实现固定的。而将两物件进行连接固定 (两物件为含有电子发射源的金属件与基板)，采用粘接剂实现连接固定是常用手段，同时，与玻璃基板连接采用低熔点的玻璃粘接剂是本领域的公知常识。由此可知，将含有电子发射源的金属件以含有熔结玻璃的粘合剂固定在玻璃基板上为本领域的公知常识。因此，当其引用的权利要求 1 不具备创造性时，权利要求 4 也不具备专利法第二十二条第三款所规定的创造性。

5、权利要求 5 的附加技术特征为电子发射源的金属件由铁和含铁合金之一制成。构成包敷膜的纳米管由碳制成，并适于按卷曲状态覆盖金属件。对比文件 2 披露了金属件由 Al 制成，构成包敷膜的纳米管由碳制成 (见对比文件 2 第 24 栏第 30-50 行，附图 18)。而金属件由铁和含铁合金之一制成只是对 Al 的等效替代。对比文件 2 披露了纳米管覆盖金属件的表面和通孔的内壁面，形成平滑的弯曲表面 (见对比文件 2 附图 11-16)。本领域技术人员通过控制在纳米孔中生长碳纳米管的工艺，同样能得到适于按卷曲状态覆盖金属件的碳纳米管。因此，当其引用的权利要求 1 不具备创造性时，权利要求 5 也不具备专利法第二十二条第三款所规定的创造性。

6、权利要求 6 的附加技术特征为包敷膜的纳米管纤维是每条纤维的厚度不小于 10nm 而比 1 $\mu$ m，长度不小于 1 $\mu$ m 而比 100 $\mu$ m 小。对比文件 2 披露了碳纳米管的直径为 2-50nm，而纳米管的长度完全可根据需要进行控制。因此，当其引用的权利要求 5 不具备创造性时，权利要求 6 也不具备专利法第二十二条第三款所规定的创造性。

7、权利要求 7 的附加技术特征为金属件的厚度为 0.05-0.20mm，包敷膜覆盖金属件的表面和通孔的内壁面，厚度为 10-30 $\mu$ m，形成平滑的弯曲表面。对比文件 2 披露了金属件 Al 的厚度为 300nm、500nm (见对比文件 2 说明书第 19 栏第 19 行、第 35 栏第 2-3 行)。同时，本领域技术人员根据欲形成的碳纳米管的大小和长度可控制形成在金属件中的纳米孔的大小和深度，从而改变金属件的厚度。对比文件 2 披露了纳

米管覆盖金属件的表面和通孔的内壁面，形成平滑的弯曲表面（见对比文件 2 附图 11-16）。本领域技术人员通过控制在纳米孔中生长碳纳米管的工艺，同样能得到覆盖金属件的表面和通孔的内壁面，厚度为 10-30um，形成平滑的弯曲表面的碳纳米管。因此，当其引用的权利要求 5 不具备创造性时，权利要求 7 也不具备专利法第二十二条第三款所规定的创造性。

8、权利要求 8 的附加技术特征为金属件具有多个通孔，成矩阵形状，形成栅格。对比文件 2 披露上述技术特征（见对比文件 2 附图 1）。因此，当其引用的权利要求 1 不具备创造性时，权利要求 8 也不具备专利法第二十二条第三款所规定的创造性。

9、权利要求 9 缺少必要技术特征“金属安装夹具”以及“金属安装夹具与保持件、玻璃基板、金属基板之间的位置关系”：因为整个安装过程都在金属安装夹具中进行的，如果缺少金属安装夹具，则无法完成电子源的安装。同时，“玻璃基板置于金属安装夹具的槽中以及保持件通过金属安装夹具上的突起固定金属基板”是安装电子源过程中定位、固定所必需的步骤。因此，权利要求 9 缺少上述必要技术特征，不符合专利法实施细则第二十一条第二款的规定。

权利要求 9 得不到说明书的支持，不符合专利法第二十六条第四款的规定：权利要求 9 中的“伴随着将拉力加到形成有包敷膜的金属基板上”，说明书实施例中是通过金属安装夹具与玻璃基板的热膨胀系数不同而使金属基板被赋予拉应力，而说明书中并未公开其它将拉力加到金属基板上的方法，因此，上述概括未以说明书为依据，得不到说明书的支持。

权利要求 9 不清楚，不符合专利法实施细则第二十条第一款的规定：权利要求 9 中的“金属板”应为“金属基板”；“各条带形金属件”应为“各条带形的板状金属件”；“卸下已将场致发射型电子发射源安装于其上的玻璃基板”，其中的“场致发射型电子发射源”以及玻璃基板从何处“卸下”不清楚。

10、权利要求 10 不清楚，不符合专利法实施细则第二十条第一款的规定：权利要求 10 引用了未出现的技术特征“安装板状金属（件）的金属夹具”；“金属夹具”应为“金属安装夹具”，“板状金属”应为“板状金属件”；“条带形金属件”应为“条带形的板状金属件”。

综上所述，申请人应对权利要求书进行修改，如果申请人将上述必要技术特征加入到独立权利要求 9 中，还应将权利要求 10 中与加入权利要求 9 中的必要技术特征相重复的技术特征去掉，以使权利要求 10 清楚、简明。

## （二）说明书部分

1、说明书中的附图标记 152、150 与附图 3B 中的附图标记 15 不对应，不符合专

利法实施细则第十九条第三款的规定。

基于上述理由，申请人应在指定的四个月期限内对权利要求书和说明书进行修改，在提交新修改的说明书时，说明书发明内容部分的技术方案部分以及说明书摘要部分应根据新修改的独立权利要求作适应性修改，同时，修改时应满足专利法第三十三条的规定，不得超出原说明书和权利要求书的记载范围。如果申请人按照审查意见进行修改，将加快本申请的审查。